

# LDL Uptake by LDLR and TFR Pathways

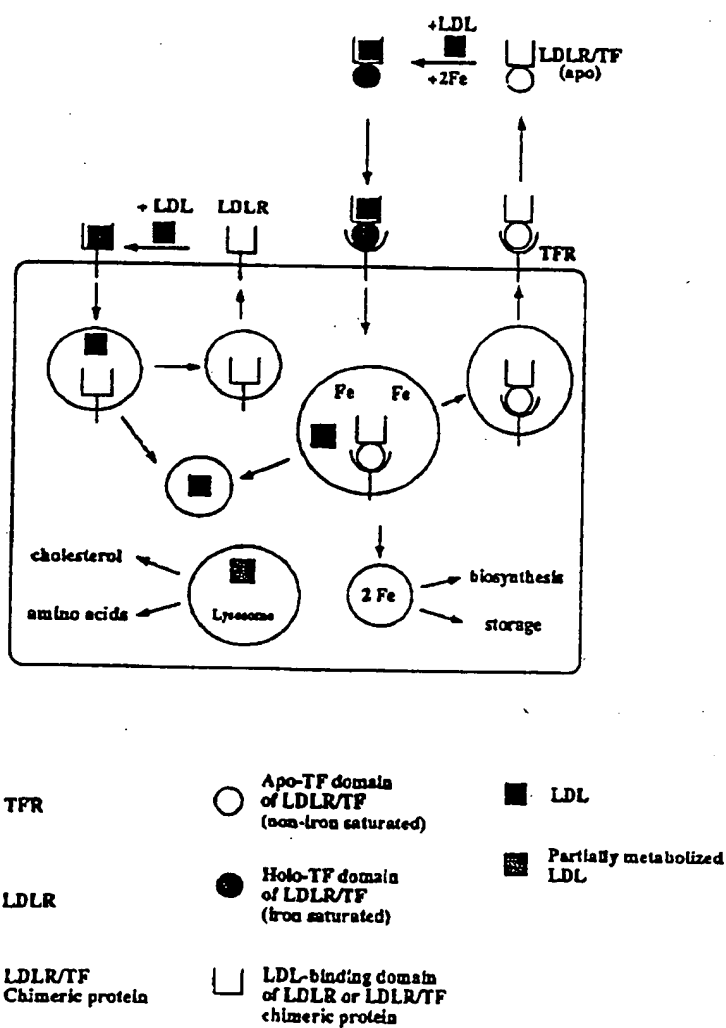
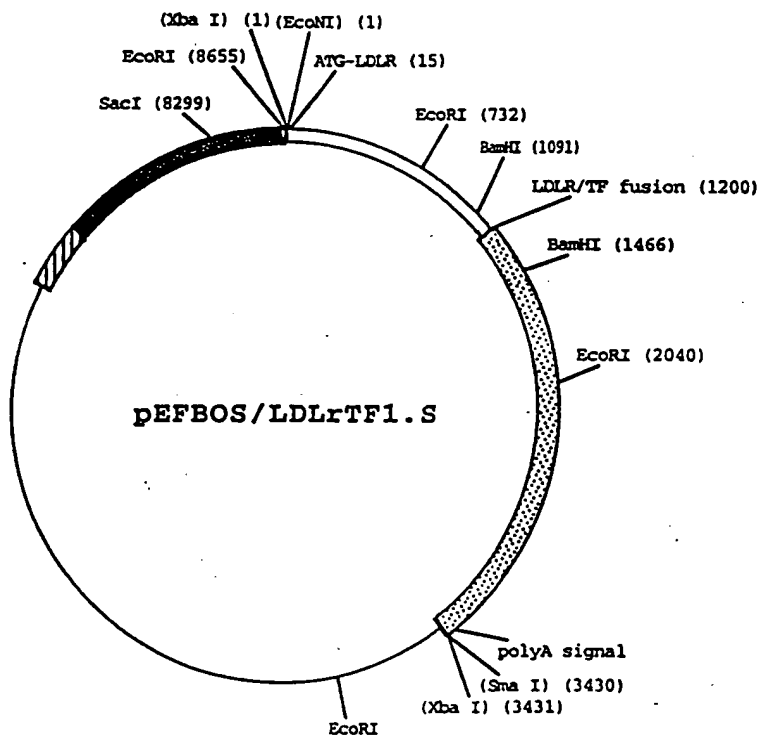







FIGURE 1



**Legend:**

- |   |   |
|---|---|
|  SV 40 genomic sequences (position # 5092-160) |  LDLR-cDNA sequence      |
|  EF-1 $\alpha$                                 |  Transferrin-cDNA sequence |
|   |  pUC 119                 |

**FIGURE 2**

Seq ID NO. 9

1 AGAGGCTGCGAGC ATG GGG CCC TGG GGC TGG AAA TTG CGC TGG ACC  
 1▶Met Gly Pro Trp Gly Trp Lys Leu Arg Trp Thr

47 GTC GCC TTG CTC CTC GCC GCG GCG GGG ACT GCA GTG GGC GAC AGA  
 12▶Val Ala Leu Leu Leu Ala Ala Ala Gly Thr Ala Val Gly Asp Arg

92 TGT GAA AGA AAC GAG TTC CAG TGC CAA GAC GGG AAA TGC ATC TCC  
 27▶Cys Glu Arg Asn Glu Phe Gln Cys Gln Asp Gly Lys Cys Ile Ser

137 TAC AAG TGG GTC TGC GAT GGC AGC GCT GAG TGC CAG GAT GGC TCT  
 42▶Tyr Lys Trp Val Cys Asp Gly Ser Ala Glu Cys Gln Asp Gly Ser

182 GAT GAG TGC CAG GAG ACG TGC TTG TCT GTC ACC TGC AAA TCC GGG  
 57▶Asp Glu Ser Gln Glu Thr Cys Leu Ser Val Thr Cys Lys Ser Gly

227 GAC TTC AGC TGT GGG GGC CGT GTC AAC CGC TGC ATT CCT CAG TTC  
 72▶Asp Phe Ser Cys Gly Gly Arg Val Asn Arg Cys Ile Pro Gln Phe

272 TGG AGG TGC GAT GGC CAA GTG GAC TGC GAC AAC GGC TCA GAC GAG  
 87▶Trp Arg Cys Asp Gly Gln Val Asp Cys Asp Asn Gly Ser Asp Glu

317 CAA GGC TGT CCC CCC AAG ACG TGC TCC CAG GAC GAG TTT CGC TGC  
 102▶Gln Gly Cys Pro Pro Lys Thr Cys Ser Gln Asp Glu Phe Arg Cys

362 CAC GAT GGG AAG TGC ATC TCT CGG CAG TTC GTC TGT GAC TCA GAC  
 117▶His Asp Gly Lys Cys Ile Ser Arg Gln Phe Val Cys Asp Ser Asp

407 CGG GAC TGC TTG GAC GGC TCA GAC GAG GCC TCC TGC CCG GTG CTC  
 132▶Arg Asp Cys Leu Asp Gly Ser Asp Glu Ala Ser Cys Pro Val Leu

452 ACC TGT GGT CCC GCC AGC TTC CAG TGC AAC AGC TCC ACC TGC ATC  
 147▶Thr Cys Gly Pro Ala Ser Phe Gln Cys Asn Ser Ser Thr Cys Ile

497 CCC CAG CTG TGG GCC TGC GAC AAC GAC CCC GAC TGC GAA GAT GGC  
 162▶Pro Gln Leu Trp Ala Cys Asp Asn Asp Pro Asp Cys Glu Asp Gly

542 TCG GAT GAG TGG CCG CAG CGC TGT AGG GGT CTT TAC GTG TTC CAA  
 177▶Ser Asp Glu Trp Pro Gln Arg Cys Arg Gly Leu Tyr Val Phe Gln

587 GGG GAC AGT AGC CCC TGC TCG GCC TTC GAG TTC CAC TGC CTA AGT  
 192▶Gly Asp Ser Ser Pro Cys Ser Ala Phe Glu Phe His Cys Leu Ser

632 GGC GAG TGC ATC CAC TCC AGC TGG CGC TGT GAT GGT GGC CCC GAC  
 207▶Gly Glu Cys Ile His Ser Ser Trp Arg Cys Asp Gly Gly Pro Asp

677 TGC AAG GAC AAA TCT GAC GAG GAA AAC TGC GCT GTG GCC ACC TGT  
 222▶Cys Lys Asp Lys Ser Asp Glu Glu Asn Cys Ala Val Ala Thr Cys

Figure 3A

722 CGC CCT GAC GAA TTC CAG TGC TCT GAT GGA AAC TGC ATC CAT GGC  
 237 Arg Pro Asp Glu Phe Gln Cys Ser Asp Gly Asn Cys Ile His Gly

767 AGC CGG CAG TGT GAC CGG GAA TAT GAC TGC AAG GAC ATG AGC GAT  
 252 Ser Arg Gln Cys Asp Arg Glu Tyr Asp Cys Lys Asp Met Ser Asp

812 GAA GTT GGC TGC GTT AAT GTG ACA CTC TGC GAG GGA CCC AAC AAG  
 267 Glu Val Gly Cys Val Asn Val Thr Leu Cys Glu Gly Pro Asn Lys

857 TTC AAG TGT CAC AGC GGC GAA TGC ATC ACC CTG GAC AAA GTC TGC  
 282 Phe Lys Cys His Ser Gly Glu Cys Ile Thr Leu Asp Lys Val Cys

902 AAC ATG GCT AGA GAC TGC CGG GAC TGG TCA GAT GAA CCC ATC AAA  
 297 Asn Met Ala Arg Asp Cys Arg Asp Trp Ser Asp Glu Pro Ile Lys

947 GAG TGC GGG ACC AAC GAA TGC TTG GAC AAC AAC GGC GGC TGT TCC  
 312 Glu Cys Gly Thr Asn Glu Cys Leu Asp Asn Asn Gly Gly Cys Ser

992 CAC GTC TGC AAT GAC CTT AAG ATC GGC TAC GAG TGC CTG TGC CCC  
 327 His Val Cys Asn Asp Leu Lys Ile Gly Tyr Glu Cys Leu Cys Pro

1037 GAC GGC TTC CAG CTG GTG GCC CAG CGA AGA TGC GAA GAT ATC GAT  
 342 Asp Gly Phe Gln Leu Val Ala Gln Arg Arg Cys Glu Asp Ile Asp

1082 GAG TGT CAG GAT CCC GAC ACC TGC AGC CAG CTC TGC GTG AAC CTG  
 357 Glu Cys Gln Asp Pro Asp Thr Cys Ser Gln Leu Cys Val Asn Leu

1127 GAG GGT GGC TAC AAG TGC CAG TGT GAG GAA GGC TTC CAG CTG GAC  
 372 Glu Gly Gly Tyr Lys Cys Gln Cys Glu Glu Gly Phe Gln Leu Asp

1172 CCC CAC ACG AAG GCC TGC AAG GCT GTG GTC CCT GAT AAA ACT GTG  
 387 Pro His Thr Lys Ala Cys Lys Ala Val Val Pro Asp Lys Thr Val

1217 AGA TGG TGT GCA GTG TCG GAG CAT GAG GCC ACT AAG TGC CAG AGT  
 402 Arg Trp Cys Ala Val Ser Glu His Glu Ala Thr Lys Cys Gln Ser

1262 TTC CGC GAC CAT ATG AAA AGC GTC ATT CCA TCC GAT GGT CCC AGT  
 417 Phe Arg Asp His Met Lys Ser Val Ile Pro Ser Asp Gly Pro Ser

1307 GTT GCT TGT GTG AAG AAA GCC TCC TAC CTT GAT TGC ATC AGG GCC  
 432 Val Ala Cys Val Lys Lys Ala Ser Tyr Leu Asp Cys Ile Arg Ala

1352 ATT GCG GCA AAC GAA GCG GAT GCT GTG ACA CTG GAT GCA GGT TTG  
 447 Ile Ala Ala Asn Glu Ala Asp Ala Val Thr Leu Asp Ala Gly Leu

1397 GTG TAT GAT GCT TAC TTG GCT CCC AAT AAC CTG AAG CCT GTG GTG  
 462 Val Tyr Asp Ala Tyr Leu Ala Pro Asn Asn Leu Lys Pro Val Val

1442 GCA GAG TTC TAT GGG TCA AAA GAG GAT CCA CAG ACT TTC TAT TAT  
 477 Ala Glu Phe Tyr Gly Ser Lys Glu Asp Pro Gln Thr Phe Tyr Tyr

FIGURE 3B

1487 GCT GTT GCT GTG GTG AAG AAG GAT AGT GGC TTC CAG ATG AAC CAG  
 492▶ Ala Val Ala Val Val Lys Lys Asp Ser Gly Phe Gln Met Asn Gln

1532 CTT CGA GGC AAG AAG TCC TGC CAC ACG GGT CTA GGC AGG TCC GCT  
 507▶ Leu Arg Gly Lys Lys Ser Cys His Thr Gly Leu Gly Arg Ser Ala

1577 GGG TGG AAC ATC CCC ATA GGC TTA CTT TAC TGT GAC TTA CCT GAG  
 522▶ Gly Trp Asn Ile Pro Ile Gly Leu Leu Tyr Cys Asp Leu Pro Glu

1622 CCA CGT AAA CCT CTT GAG AAA GCA GTG GCC AAT TTC TTC TCG GGC  
 537▶ Pro Arg Lys Pro Leu Glu Lys Ala Val Ala Asn Phe Phe Ser Gly

1667 AGC TGT GCC CCT TGT GCG GAT GGG ACG GAC TTC CCC CAG CTG TGT  
 552▶ Ser Cys Ala Pro Cys Ala Asp Gly Thr Asp Phe Pro Gln Leu Cys

1712 CAA CTG TGT CCA GGG TGT GGC TGC TCC ACC CTT AAC CAA TAC TTC  
 567▶ Gln Leu Cys Pro Gly Cys Gly Cys Ser Thr Leu Asn Gln Tyr Phe

1757 GGC TAC TCG GGA GCC TTC AAG TGT CTG AAG GAT GGT GCT GGG GAT  
 582▶ Gly Tyr Ser Gly Ala Phe Lys Cys Leu Lys Asp Gly Ala Gly Asp

1802 GTG GCC TTT GTC AAG CAC TCG ACT ATA TTT GAG AAC TTG GCA AAC  
 597▶ Val Ala Phe Val Lys His Ser Thr Ile Phe Glu Asn Leu Ala Asn

1847 AAG GCT GAC AGG GAC CAG TAT GAG CTG CTT TGC CTA GAC AAC ACC  
 612▶ Lys Ala Asp Arg Asp Gln Tyr Glu Leu Leu Cys Leu Asp Asn Thr

1892 CGG AAG CCG GTA GAT GAA TAC AAG GAC TGC CAC TTG GCC CAG GTC  
 627▶ Arg Lys Pro Val Asp Glu Tyr Lys Asp Cys His Leu Ala Gln Val

1937 CCT TCT CAT ACC GTC GTG GCC CGA AGT ATG GGC GGC AAG GAG GAC  
 642▶ Pro Ser His Thr Val Val Ala Arg Ser Met Gly Gly Lys Glu Asp

1982 TTG ATC TGG GAG CTT CTC AAC CAG GCC CAG GAA CAT TTT GGC AAA  
 657▶ Leu Ile Trp Glu Leu Leu Asn Gln Ala Gln Glu His Phe Gly Lys

2027 GAC AAA TCA AAA GAA TTC CAA CTA TTC AGC TCT CCT CAT GGG AAG  
 672▶ Asp Lys Ser Lys Glu Phe Gln Leu Phe Ser Ser Pro His Gly Lys

2072 GAC CTG CTG TTT AAG GAC TCT GCC CAC GGG TTT TTA AAA GTC CCC  
 687▶ Asp Leu Leu Phe Lys Asp Ser Ala His Gly Phe Leu Lys Val Pro

2117 CCA AGG ATG GAT GCC AAG ATG TAC CTG GGC TAT GAG TAT GTC ACT  
 702▶ Pro Arg Met Asp Ala Lys Met Tyr Leu Gly Tyr Glu Tyr Val Thr

2162 GCC ATC CGG AAT CTA CGG GAA GGC ACA TGC CCA GAA GCC CCA ACA  
 717▶ Ala Ile Arg Asn Leu Arg Glu Gly Thr Cys Pro Glu Ala Pro Thr

2207 GAT GAA TGC AAG CCT GTG AAG TGG TGT GCG CTG AGC CAC CAC GAG  
 732▶ Asp Glu Cys Lys Pro Val Lys Trp Cys Ala Leu Ser His His Glu

FIGURE 3C

2252 AGG CTC AAG TGT GAT GAG TGG AGT GTT AAC AGT GTA GGG AAA ATA  
 747 Arg Leu Lys Cys Asp Glu Trp Ser Val Asn Ser Val Gly Lys Ile

2297 GAG TGT GTA TCA GCA GAG ACC ACC GAA GAC TGC ATC GCC AAG ATC  
 762 Glu Cys Val Ser Ala Glu Thr Thr Glu Asp Cys Ile Ala Lys Ile

2342 ATG AAT GGA GAA GCT GAT GCC ATG AGC TTG GAT GGA GGG TTT GTC  
 777 Met Asn Gly Glu Ala Asp Ala Met Ser Leu Asp Gly Gly Phe Val

2387 TAC ATA GCG GGC AAG TGT GGT CTG GTG CCT GTC TTG GCA GAA AAC  
 792 Tyr Ile Ala Gly Lys Cys Gly Leu Val Pro Val Leu Ala Glu Asn

2432 TAC AAT AAG AGC GAT AAT TGT GAG GAT ACA CCA GAG GCA GGG TAT  
 807 Tyr Asn Lys Ser Asp Asn Cys Glu Asp Thr Pro Glu Ala Gly Tyr

2477 TTT GCT GTA GCA GTG GTG AAG AAA TCA GCT TCT GAC CTC ACC TGG  
 822 Phe Ala Val Ala Val Val Lys Lys Ser Ala Ser Asp Leu Thr Trp

2522 GAC AAT CTG AAA GGC AAG AAG TCC TGC CAT ACG GCA GTT GGC AGA  
 837 Asp Asn Leu Lys Gly Lys Lys Ser Cys His Thr Ala Val Gly Arg

2567 ACC GCT GGC TGG AAC ATC CCC ATG GGC CTG CTC TAC AAT AAG ATC  
 852 Thr Ala Gly Trp Asn Ile Pro Met Gly Leu Leu Tyr Asn Lys Ile

2612 AAC CAC TGC AGA TTT GAT GAA TTT TTC AGT GAA GGT TGT GCC CCT  
 867 Asn His Cys Arg Phe Asp Glu Phe Phe Ser Glu Gly Cys Ala Pro

2657 GGG TCT AAG AAA GAC TCC AGT CTC TGT AAG CTG TGT ATG GGC TCA  
 882 Gly Ser Lys Lys Asp Ser Ser Leu Cys Lys Leu Cys Met Gly Ser

2702 GGC CTA AAC CTG TGT GAA CCC AAC AAC AAA GAG GGA TAC TAC GGC  
 897 Gly Leu Asn Leu Cys Glu Pro Asn Asn Lys Glu Gly Tyr Tyr Gly

2747 TAC ACA GGC GCT TTC AGG TGT CTG GTT GAG AAG GGA GAT GTG GCC  
 912 Tyr Thr Gly Ala Phe Arg Cys Leu Val Glu Lys Gly Asp Val Ala

2792 TTT GTG AAA CAC CAG ACT GTC CCA CAG AAC ACT GGG GGA AAA AAC  
 927 Phe Val Lys His Gln Thr Val Pro Gln Asn Thr Gly Gly Lys Asn

2837 CCT GAT CCA TGG GCT AAG AAT CTG AAT GAA AAA GAC TAT GAG TTG  
 942 Pro Asp Pro Trp Ala Lys Asn Leu Asn Glu Lys Asp Tyr Glu Leu

2882 CTG TGC CTT GAT GGT ACC AGG AAA CCT GTG GAG GAG TAT GCG AAC  
 957 Leu Cys Leu Asp Gly Thr Arg Lys Pro Val Glu Glu Tyr Ala Asn

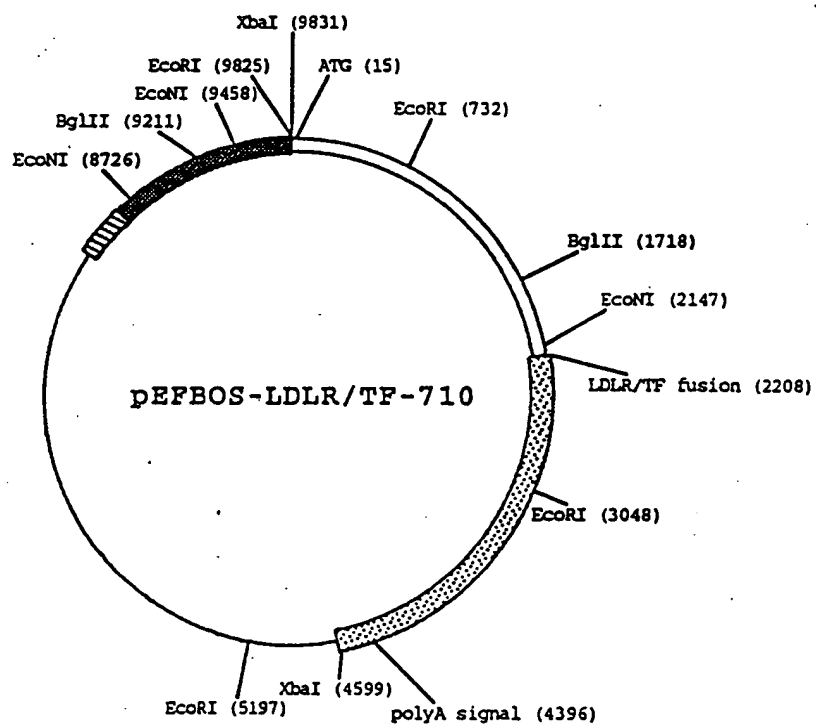
2927 TGC CAC CTG GCC AGA GCC CCG AAT CAC GCT GTG GTC ACA CGG AAA  
 972 Cys His Leu Ala Arg Ala Pro Asn His Ala Val Val Thr Arg Lys

2972 GAT AAG GAA GCT TGC GTC CAC AAG ATA TTA CGT CAA CAG CAG CAC  
 987 Asp Lys Glu Ala Cys Val His Lys Ile Leu Arg Gln Gln Gln His

FIGURE 3D

3017 CTA TTT GGA AGC AAC GTA ACT GAC TGC TCG GGC AAC TTT TGT TTG  
 1002 ▶ Leu Phe Gly Ser Asn Val Thr Asp Cys Ser Gly Asn Phe Cys Leu  
  
 3062 TTC CGG TCG GAA ACC AAG GAC CTT CTG TTC AGA GAT GAC ACA GTA  
 1017 ▶ Phe Arg Ser Glu Thr Lys Asp Leu Leu Phe Arg Asp Asp Thr Val  
  
 3107 TGT TTG GCC AAA CTT CAT GAC AGA AAC ACA TAT GAA AAA TAC TTA  
 1032 ▶ Cys Leu Ala Lys Leu His Asp Arg Asn Thr Tyr Glu Lys Tyr Leu  
  
 3152 GGA GAA GAA TAT GTC AAG GCT GTT GGT AAC CTG AGA AAA TGC TCC  
 1047 ▶ Gly Glu Glu Tyr Val Lys Ala Val Gly Asn Leu Arg Lys Cys Ser  
  
 3197 ACC TCA TCA CTC CTG GAA GCC TGC ACT TTC CGT AGA CCT TAAAATCT  
 1062 ▶ Thr Ser Ser Leu Leu Glu Ala Cys Thr Phe Arg Arg Pro ...  
  
 3244 CAGAGGTAGGGCTGCCACCAAGGTGAAGATGGGAACGCAGATGATCCATGAGTTTGCCCT  
  
 3304 GGTTCACCTGGCCCAAGTGGTTTGTGCTAACCACGTCTGTCTTCACAGCTCTGTGTTGCC  
  
 3364 ATGTGTGCTGAACAAAAAATAAAAATTATTATTGATTTTATATTTCTGGGGGGGGGGCTGC  
  
 3424 AGCCC

FIGURE 3E



**Legend:**

- |  |   |  |                           |
|--|---|--|---------------------------|
|  | SV 40 genomic sequences (position # 5092-160) |  | LDLR-cDNA sequence        |
|  | EF-1α   |  | Transferrin-cDNA sequence |
|  |   |  | pUC 119                   |

FIGURE 4



SEQ ID NO: 3+4

1 AGAGGCTGCGAGC ATG GGG CCC TGG GGC TGG AAA TTG CGC TGG ACC  
 1 Met Gly Pro Trp Gly Trp Lys Leu Arg Trp Thr

47 GTC GCC TTG CTC CTC GCC GCG GCG GGG ACT GCA GTG GGC GAC AGA  
 12 Val Ala Leu Leu Leu Ala Ala Ala Gly Thr Ala Val Gly Asp Arg

92 TGT GAA AGA AAC GAG TTC CAG TGC CAA GAC GGG AAA TGC ATC TCC  
 27 Cys Glu Arg Asn Glu Phe Gln Cys Gln Asp Gly Lys Cys Ile Ser

137 TAC AAG TGG GTC TGC GAT GGC AGC GCT GAG TGC CAG GAT GGC TCT  
 42 Tyr Lys Trp Val Cys Asp Gly Ser Ala Glu Cys Gln Asp Gly Ser

182 GAT GAG TCC CAG GAG ACG TGC TTG TCT GTC ACC TGC AAA TCC GGG  
 57 Asp Glu Ser Gln Glu Thr Cys Leu Ser Val Thr Cys Lys Ser Gly

227 GAC TTC AGC TGT GGG GGC CGT GTC AAC CGC TGC ATT CCT CAG TTC  
 72 Asp Phe Ser Cys Gly Gly Arg Val Asn Arg Cys Ile Pro Gln Phe

272 TGG AGG TGC GAT GGC CAA GTG GAC TGC GAC AAC GGC TCA GAC GAG  
 87 Trp Arg Cys Asp Gly Gln Val Asp Cys Asp Asn Gly Ser Asp Glu

317 CAA GGC TGT CCC CCC AAG ACG TGC TCC CAG GAC GAG TTT CGC TGC  
 102 Gln Gly Cys Pro Pro Lys Thr Cys Ser Gln Asp Glu Phe Arg Cys

362 CAC GAT GGG AAG TGC ATC TCT CGG CAG TTC GTC TGT GAC TCA GAC  
 117 His Asp Gly Lys Cys Ile Ser Arg Gln Phe Val Cys Asp Ser Asp

407 CGG GAC TGC TTG GAC GGC TCA GAC GAG GCC TCC TGC CCG GTG CTC  
 132 Arg Asp Cys Leu Asp Gly Ser Asp Glu Ala Ser Cys Pro Val Leu

452 ACC TGT GGT CCC GCC AGC TTC CAG TGC AAC AGC TCC ACC TGC ATC  
 147 Thr Cys Gly Pro Ala Ser Phe Gln Cys Asn Ser Ser Thr Cys Ile

497 CCC CAG CTG TGG GCC TGC GAC AAC GAC CCC GAC TGC GAA GAT GGC  
 162 Pro Gln Leu Trp Ala Cys Asp Asn Asp Pro Asp Cys Glu Asp Gly

542 TCG GAT GAG TGG CCG CAG CGC TGT AGG GGT CTT TAC GTG TTC CAA  
 177 Ser Asp Glu Trp Pro Gln Arg Cys Arg Gly Leu Tyr Val Phe Gln

587 GGG GAC AGT AGC CCC TGC TCG GCC TTC GAG TTC CAC TGC CTA AGT  
 192 Gly Asp Ser Ser Pro Cys Ser Ala Phe Glu Phe His Cys Leu Ser

632 GGC GAG TGC ATC CAC TCC AGC TGG CGC TGT GAT GGT GGC CCC GAC  
 207 Gly Glu Cys Ile His Ser Ser Trp Arg Cys Asp Gly Gly Pro Asp

677 TGC AAG GAC AAA TCT GAC GAG GAA AAC TGC GCT GTG GCC ACC TGT  
 222 Cys Lys Asp Lys Ser Asp Glu Glu Asn Cys Ala Val Ala Thr Cys

FIGURE 5A

722 CGC CCT GAC GAA TTC CAG TGC TCT GAT GGA AAC TGC ATC CAT GGC  
 237 Arg Pro Asp Glu Phe Gln Cys Ser Asp Gly Asn Cys Ile His Gly

767 AGC CGG CAG TGT GAC CGG GAA TAT GAC TGC AAG GAC ATG AGC GAT  
 252 Ser Arg Gln Cys Asp Arg Glu Tyr Asp Cys Lys Asp Met Ser Asp

812 GAA GTT GGC TGC GTT AAT GTG ACA CTC TGC GAG GGA CCC AAC AAG  
 267 Glu Val Gly Cys Val Asn Val Thr Leu Cys Glu Gly Pro Asn Lys

857 TTC AAG TGT CAC AGC GGC GAA TGC ATC ACC CTG GAC AAA GTC TGC  
 282 Phe Lys Cys His Ser Gly Glu Cys Ile Thr Leu Asp Lys Val Cys

902 AAC ATG GCT AGA GAC TGC CGG GAC TGG TCA GAT GAA CCC ATC AAA  
 297 Asn Met Ala Arg Asp Cys Arg Asp Trp Ser Asp Glu Pro Ile Lys

947 GAG TGC GGG ACC AAC GAA TGC TTG GAC AAC AAC GGC GGC TGT TCC  
 312 Glu Cys Gly Thr Asn Glu Cys Leu Asp Asn Asn Gly Gly Cys Ser

992 CAC GTC TGC AAT GAC CTT AAG ATC GGC TAC GAG TGC CTG TGC CCC  
 327 His Val Cys Asn Asp Leu Lys Ile Gly Tyr Glu Cys Leu Cys Pro

1037 GAC GGC TTC CAG CTG GTG GCC CAG CGA AGA TGC GAA GAT ATC GAT  
 342 Asp Gly Phe Gln Leu Val Ala Gln Arg Arg Cys Glu Asp Ile Asp

1082 GAG TGT CAG GAT CCC GAC ACC TGC AGC CAG CTC TGC GTG AAC CTG  
 357 Glu Cys Gln Asp Pro Asp Thr Cys Ser Gln Leu Cys Val Asn Leu

1127 GAG GGT GGC TAC AAG TGC CAG TGT GAG GAA GGC TTC CAG CTG GAC  
 372 Glu Gly Gly Tyr Lys Cys Gln Cys Glu Glu Gly Phe Gln Leu Asp

1172 CCC CAC ACG AAG GCC TGC AAG GCT GTG GGC TCC ATC GCC TAC CTC  
 387 Pro His Thr Lys Ala Cys Lys Ala Val Gly Ser Ile Ala Tyr Leu

1217 TTC TTC ACC AAC CGG CAC GAG GTC AGG AAG ATG ACG CTG GAC CGG  
 402 Phe Phe Thr Asn Arg His Glu Val Arg Lys Met Thr Leu Asp Arg

1262 AGC GAG TAC ACC AGC CTC ATC CCC AAC CTG AGG AAC GTG GTC GCT  
 417 Ser Glu Tyr Thr Ser Leu Ile Pro Asn Leu Arg Asn Val Val Ala

1307 CTG GAC ACG GAG GTG GCC AGC AAT AGA ATC TAC TGG TCT GAC CTG  
 432 Leu Asp Thr Glu Val Ala Ser Asn Arg Ile Tyr Trp Ser Asp Leu

1352 TCC CAG AGA ATG ATC TGC AGC ACC CAG CTT GAC AGA GCC CAC GGC  
 447 Ser Gln Arg Met Ile Cys Ser Thr Gln Leu Asp Arg Ala His Gly

1397 GTC TCT TCC TAT GAC ACC GTC ATC AGC AGG GAC ATC CAG GCC CCC  
 462 Val Ser Ser Tyr Asp Thr Val Ile Ser Arg Asp Ile Gln Ala Pro

1442 GAC GGG CTG GCT GTG GAC TGG ATC CAC AGC AAC ATC TAC TGG ACC  
 477 Asp Gly Leu Ala Val Asp Trp Ile His Ser Asn Ile Tyr Trp Thr

FIGURE 5B

1487 GAC TCT GTC CTG GGC ACT GTC TCT GTT GCG GAT ACC AAG GGC GTG  
 492▸ Asp Ser Val Leu Gly Thr Val Ser Val Ala Asp Thr Lys Gly Val

1532 AAG AGG AAA ACG TTA TTC AGG GAG AAC GGC TCC AAG CCA AGG GCC  
 507▸ Lys Arg Lys Thr Leu Phe Arg Glu Asn Gly Ser Lys Pro Arg Ala

1577 ATC GTG GTG GAT CCT GTT CAT GGC TTC ATG TAC TGG ACT GAC TGG  
 522▸ Ile Val Val Asp Pro Val His Gly Phe Met Tyr Trp Thr Asp Trp

1622 GGA ACT CCC GCC AAG ATC AAG AAA GGG GGC CTG AAT GGT GTG GAC  
 537▸ Gly Thr Pro Ala Lys Ile Lys Lys Gly Gly Leu Asn Gly Val Asp

1667 ATC TAC TCG CTG GTG ACT GAA AAC ATT CAG TGG CCC AAT GGC ATC  
 552▸ Ile Tyr Ser Leu Val Thr Glu Asn Ile Gln Trp Pro Asn Gly Ile

1712 ACC CTA GAT CTC CTC AGT GGC CGC CTC TAC TGG GTT GAC TCC AAA  
 567▸ Thr Leu Asp Leu Leu Ser Gly Arg Leu Tyr Trp Val Asp Ser Lys

1757 CTT CAC TCC ATC TCA AGC ATC GAT GTC AAT GGG GGC AAC CGG AAG  
 582▸ Leu His Ser Ile Ser Ser Ile Asp Val Asn Gly Gly Asn Arg Lys

1802 ACC ATC TTG GAG GAT GAA AAG AGG CTG GCC CAC CCC TTC TCC TTG  
 597▸ Thr Ile Leu Glu Asp Glu Lys Arg Leu Ala His Pro Phe Ser Leu

1847 GCC GTC TTT GAG GAC AAA GTA TTT TGG ACA GAT ATC ATC AAC GAA  
 612▸ Ala Val Phe Glu Asp Lys Val Phe Trp Thr Asp Ile Ile Asn Glu

1892 GCC ATT TTC AGT GCC AAC CGC CTC ACA GGT TCC GAT GTC AAC TTG  
 627▸ Ala Ile Phe Ser Ala Asn Arg Leu Thr Gly Ser Asp Val Asn Leu

1937 TTG GCT GAA AAC CTA CTG TCC CCA GAG GAT ATG GTC CTC TTC CAC  
 642▸ Leu Ala Glu Asn Leu Leu Ser Pro Glu Asp Met Val Leu Phe His

1982 AAC CTC ACC CAG CCA AGA GGA GTG AAC TGG TGT GAG AGG ACC ACC  
 657▸ Asn Leu Thr Gln Pro Arg Gly Val Asn Trp Cys Glu Arg Thr Thr

2027 CTG AGC AAT GGC GGC TGC CAG TAT CTG TGC CTC CCT GCC CCG CAG  
 672▸ Leu Ser Asn Gly Gly Cys Gln Tyr Leu Cys Leu Pro Ala Pro Gln

2072 ATC AAC CCC CAC TCG CCC AAG TTT ACC TGC GCC TGC CCG GAC GGC  
 687▸ Ile Asn Pro His Ser Pro Lys Phe Thr Cys Ala Cys Pro Asp Gly

2117 ATG CTG CTG GCC AGG GAC ATG AGG AGC TGC CTC ACA GAG GCT GAG  
 702▸ Met Leu Leu Ala Arg Asp Met Arg Ser Cys Leu Thr Glu Ala Glu

2162 GCT GCA GTG GCC ACC CAG GAG ACA TCC ACC GTC AGG CTA AAG GTC  
 717▸ Ala Ala Val Ala Thr Gln Glu Thr Ser Thr Val Arg Leu Lys Val

2207 GTC CCT GAT AAA ACT GTG AGA TGG TGT GCA GTG TCG GAG CAT GAG  
 732▸ Val Pro Asp Lys Thr Val Arg Trp Cys Ala Val Ser Glu His Glu

FIGURE 5C

2252 GCC ACT AAG TCC CAG AGT TTC CGC GAC CAT AAG AAA AGC GTC ATT  
 747▶ Ala Thr Lys Cys Gln Ser Phe Arg Asp His Met Lys Ser Val Ile

2297 CCA TCC GAT GGT CCC AGT GTT GCT TGT GTG AAG AAA GCC TCC TAC  
 762▶ Pro Ser Asp Gly Pro Ser Val Ala Cys Val Lys Lys Ala Ser Tyr

2342 CTT GAT TGC ATC AGG GCC ATT CGC GCA AAC GAA GCG GAT GCT GTG  
 777▶ Leu Asp Cys Ile Arg Ala Ile Ala Ala Asn Glu Ala Asp Ala Val

2387 ACA CTG GAT GCA GGT TTG GTG TAT GAT GCT TAC TTG GCT CCC AAT  
 792▶ Thr Leu Asp Ala Gly Leu Val Tyr Asp Ala Tyr Leu Ala Pro Asn

2432 AAC CTG AAG CCT GTG GTG GCA GAG TTC TAT GGG TCA AAA GAG GAT  
 807▶ Asn Leu Lys Pro Val Val Ala Glu Phe Tyr Gly Ser Lys Glu Asp

2477 CCA CAG ACT TTC TAT TAT GCT GTT GCT GTG GTG AAG AAG GAT AGT  
 822▶ Pro Gln Thr Phe Tyr Tyr Ala Val Ala Val Val Lys Lys Asp Ser

2522 GGC TTC CAG ATG AAC CAG CTT CGA GGC AAG AAG TCC TGC CAC ACG  
 837▶ Gly Phe Gln Met Asn Gln Leu Arg Gly Lys Lys Ser Cys His Thr

2567 GGT CTA GGC AGG TCC GCT GGG TGG AAC ATC CCC ATA GGC TTA CTT  
 852▶ Gly Leu Gly Arg Ser Ala Gly Trp Asn Ile Pro Ile Gly Leu Leu

2612 TAC TGT GAC TTA CCT GAG CCA CGT AAA CCT CTT GAG AAA GCA GTG  
 867▶ Tyr Cys Asp Leu Pro Glu Pro Arg Lys Pro Leu Glu Lys Ala Val

2657 GCC AAT TTC TTC TCG GGC AGC TGT GCC CCT TGT GCG GAT GGG ACG  
 882▶ Ala Asn Phe Phe Ser Gly Ser Cys Ala Pro Cys Ala Asp Gly Thr

2702 GAC TTC CCC CAG CTG TGT CAA CTG TGT CCA GGG TGT GGC TGC TCC  
 897▶ Asp Phe Pro Gln Leu Cys Gln Leu Cys Pro Gly Cys Gly Cys Ser

2747 ACC CTT AAC CAA TAC TTC GGC TAC TCG GGA GCC TTC AAG TGT CTG  
 912▶ Thr Leu Asn Gln Tyr Phe Gly Tyr Ser Gly Ala Phe Lys Cys Leu

2792 AAG GAT GGT GCT GGG GAT GTG GCC TTT GTC AAG CAC TCG ACT ATA  
 927▶ Lys Asp Gly Ala Gly Asp Val Ala Phe Val Lys His Ser Thr Ile

2837 TTT GAG AAC TTG GCA AAC AAG GCT GAC AGG GAC CAG TAT GAG CTG  
 942▶ Phe Glu Asn Leu Ala Asn Lys Ala Asp Arg Asp Gln Tyr Glu Leu

2882 CTT TGC CTA GAC AAC ACC CGG AAG CCG GTA GAT GAA TAC AAG GAC  
 957▶ Leu Cys Leu Asp Asn Thr Arg Lys Pro Val Asp Glu Tyr Lys Asp

2927 TGC CAC TTG GCC CAG GTC CCT TCT CAT ACC GTC GTG GCC CGA AGT  
 972▶ Cys His Leu Ala Gln Val Pro Ser His Thr Val Val Ala Arg Ser

2972 ATG GGC GGC AAG GAG GAC TTG ATC TGG GAG CTT CTC AAC CAG GCC  
 987▶ Met Gly Gly Lys Glu Asp Leu Ile Trp Glu Leu Leu Asn Gln Ala

FIGURE 5D

3017 CAG GAA CAT TA GGC AAA GAC AAA TCA AAA GAA TTC CAA CTA TTC  
 1002▶ Gln Glu His Phe Gly Lys Asp Lys Ser Lys Glu Phe Gln Leu Phe

3062 AGC TCT CCT CAT GGG AAG GAC CTG CTG TTT AAG GAC TCT GCC CAC  
 1017▶ Ser Ser Pro His Gly Lys Asp Leu Leu Phe Lys Asp Ser Ala His

3107 GGG TTT TTA AAA GTC CCC CCA AGG ATG GAT GCC AAG ATG TAC CTG  
 1032▶ Gly Phe Leu Lys Val Pro Pro Arg Met Asp Ala Lys Met Tyr Leu

3152 GGC TAT GAG TAT GTC ACT GCC ATC CGG AAT CTA CGG GAA GGC ACA  
 1047▶ Gly Tyr Glu Tyr Val Thr Ala Ile Arg Asn Leu Arg Glu Gly Thr

3197 TGC CCA GAA GCC CCA ACA GAT GAA TGC AAG CCT GTG AAG TGG TGT  
 1062▶ Cys Pro Glu Ala Pro Thr Asp Glu Cys Lys Pro Val Lys Trp Cys

3242 GCG CTG AGC CAC CAC GAG AGG CTC AAG TGT GAT GAG TGG AGT GTT  
 1077▶ Ala Leu Ser His His Glu Arg Leu Lys Cys Asp Glu Trp Ser Val

3287 AAC AGT GTA GGG AAA ATA GAG TGT GTA TCA GCA GAG ACC ACC GAA  
 1092▶ Asn Ser Val Gly Lys Ile Glu Cys Val Ser Ala Glu Thr Thr Glu

3332 GAC TGC ATC GCC AAG ATC ATG AAT GGA GAA GCT GAT GCC ATG AGC  
 1107▶ Asp Cys Ile Ala Lys Ile Met Asn Gly Glu Ala Asp Ala Met Ser

3377 TTG GAT GGA GGG TTT GTC TAC ATA GCG GCG AAG TGT GGT CTG GTG  
 1122▶ Leu Asp Gly Gly Phe Val Tyr Ile Ala Gly Lys Cys Gly Leu Val

3422 CCT GTG TTG GCA GAA AAC TAC AAT AAG AGC GAT AAT TGT GAG GAT  
 1137▶ Pro Val Leu Ala Glu Asn Tyr Asn Lys Ser Asp Asn Cys Glu Asp

3467 ACA CCA GAG GCA GGG TAT TTT GCT GTA GCA GTG GTG AAG AAA TCA  
 1152▶ Thr Pro Glu Ala Gly Tyr Phe Ala Val Ala Val Val Lys Lys Ser

3512 GCT TCT GAC CTC ACC TGG GAC AAT CTG AAA GGC AAG AAG TCC TGC  
 1167▶ Ala Ser Asp Leu Thr Trp Asp Asn Leu Lys Gly Lys Lys Ser Cys

3557 CAT ACG GCA GTT GGC AGA ACC GCT GGC TGG AAC ATC CCC ATG GGC  
 1182▶ His Thr Ala Val Gly Arg Thr Ala Gly Trp Asn Ile Pro Met Gly

3602 CTG CTC TAC AAT AAG ATC AAC CAC TGC AGA TTT GAT GAA TTT TTC  
 1197▶ Leu Leu Tyr Asn Lys Ile Asn His Cys Arg Phe Asp Glu Phe Phe

3647 AGT GAA GGT TGT GCC CCT GGG TCT AAG AAA GAC TCC AGT CTC TGT  
 1212▶ Ser Glu Gly Cys Ala Pro Gly Ser Lys Lys Asp Ser Ser Leu Cys

3692 AAG CTG TGT ATG GGC TCA GGC CTA AAC CTG TGT GAA CCC AAC AAC  
 1227▶ Lys Leu Cys Met Gly Ser Gly Leu Asn Leu Cys Glu Pro Asn Asn

3737 AAA GAG GGA TAC TAC GGC TAC ACA GGC GCT TTC AGG TGT CTG GTT  
 1242▶ Lys Glu Gly Tyr Tyr Gly Tyr Thr Gly Ala Phe Arg Cys Leu Val

FIGURE 5E

3782 GAG AAG GGA CTG GCC TTT GTG AAA CAC CTG ACT GTC CCA CAG  
 1257▶ Glu Lys Gly Asp Val Ala Phe Val Lys His Gln Thr Val Pro Gln

3827 AAC ACT GGG GGA AAA AAC CCT GAT CCA TGG GCT AAG AAT CTG AAT  
 1272▶ Asn Thr Gly Gly Lys Asn Pro Asp Pro Trp Ala Lys Asn Leu Asn

3872 GAA AAA GAC TAT GAG TTG CTG TGC CTT GAT GGT ACC AGG AAA CCT  
 1287▶ Glu Lys Asp Tyr Glu Leu Leu Cys Leu Asp Gly Thr Arg Lys Pro

3917 GTG GAG GAG TAT CGG AAC TGC CAC CTG GCC AGA GCC CCG AAT CAC  
 1302▶ Val Glu Glu Tyr Ala Asn Cys His Leu Ala Arg Ala Pro Asn His

3962 GCT GTG GTC ACA CGG AAA GAT AAG GAA GCT TGC GTC CAC AAG ATA  
 1317▶ Ala Val Val Thr Arg Lys Asp Lys Glu Ala Cys Val His Lys Ile

4007 TTA CGT CAA CAG CAG CAC CTA TTT GGA AGC AAC GTA ACT GAC TGC  
 1332▶ Leu Arg Gln Gln Gln His Leu Phe Gly Ser Asn Val Thr Asp Cys

4052 TCG GGC AAC TTT TGT TTG TTC CGG TCG GAA ACC AAG GAC CTT CTG  
 1347▶ Ser Gly Asn Phe Cys Leu Phe Arg Ser Glu Thr Lys Asp Leu Leu

4097 TTC AGA GAT GAC ACA GTA TGT TTG GCC AAA CTT CAT GAC AGA AAC  
 1362▶ Phe Arg Asp Asp Thr Val Cys Leu Ala Lys Leu His Asp Arg Asn

4142 ACA TAT GAA AAA TAC TTA GGA GAA GAA TAT GTC AAG GCT GTT GGT  
 1377▶ Thr Tyr Glu Lys Tyr Leu Gly Glu Glu Tyr Val Lys Ala Val Gly

4187 AAC CTG AGA AAA TGC TCC ACC TCA TCA CTC CTG GAA GCC TGC ACT  
 1392▶ Asn Leu Arg Lys Cys Ser Thr Ser Ser Leu Leu Glu Ala Cys Thr

4232 TTC CGT AGA CCT TAAATCTCAGAGGTAGGGCTGCCACCAAGGTGAAGATGGGAAC  
 1407▶ Phe Arg Arg Pro ...

4288 GCAGATGATCCATGAGTTTGCCCTGGTTTCACTGGCCCAAGTGGTTTGTGCTAACCACGT

4348 CTGTCTTCACAGCTCTGTGTTGCCATGTGTGCTGAACAAAAATAAAATTATTATTGAT

4408 TTTATATTTTCGGGGGGGGGGCTGCAGCCCCTAGACCTGAGGGTCCCCACCTGGGACCCCTT

4468 GAGAGTATCAGGTCTCCACGTGGGAGACAAGAAATCCCTGTTTAATATTTAAACAGCAG

4528 TGTTCCTCATCTGGGTCCTTGACCCCTCACTCTGGCCTCAGCCGACTGCACAGCGGCC

4588 CTGCATCCCCTCTAGA

FIGURE 5F

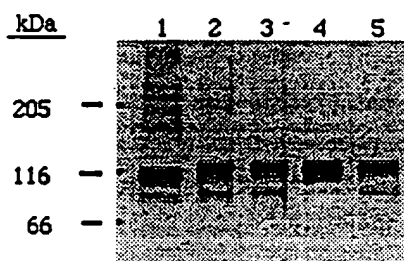
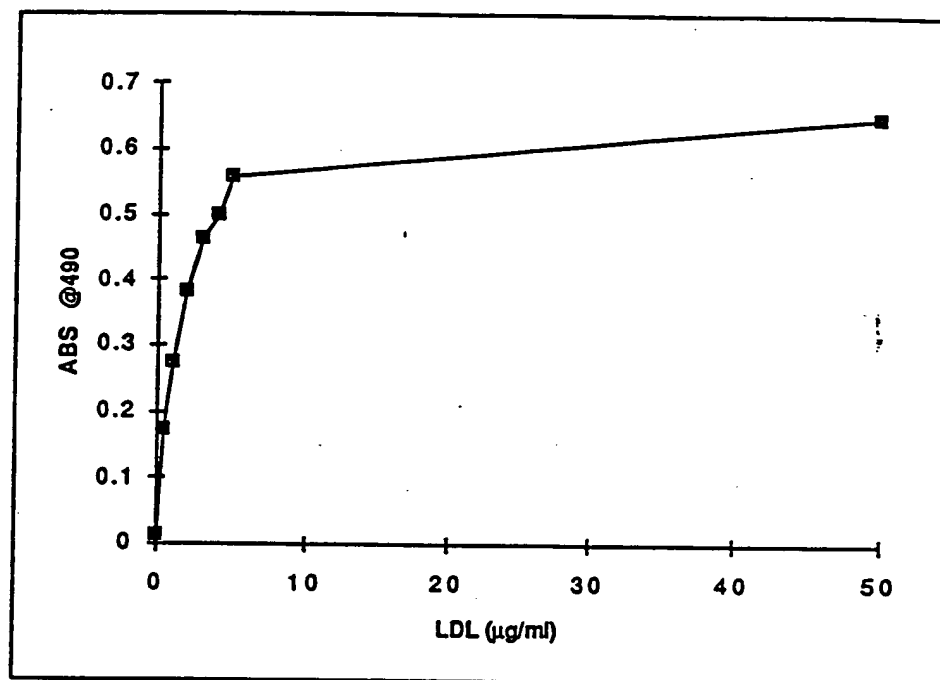


FIGURE 6

**Specific Binding of Human LDL to LDLR/TF Chimeric Protein**



**FIGURE 7**



# Chimeric Protein Binding to LDL Is Sensitive to EDTA and pH

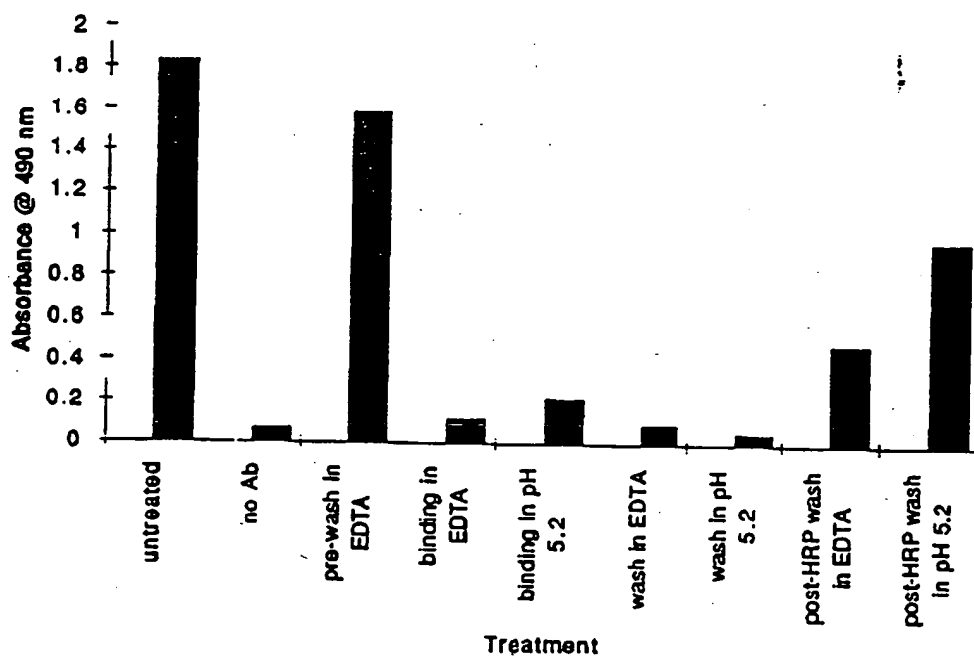


FIGURE 8

FIGURE 9